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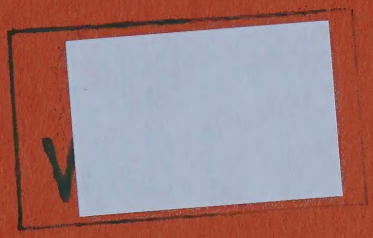
Twenty-Fourth Annual Report

March 31st. 1973



Alberta

Dept of MINES AND MINERALS

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Twenty-Fourth Annual Report March 31st. 1973

Alberta

MINES AND MINERALS

Alberta
MINES AND MINERALS

To the Honourable J. W. GRANT MacEWAN,
Lieutenant Governor of the Province of Alberta

Sir:

I have the honour to submit the Report of the Department of Mines and Minerals for the fiscal year ended March 31st, 1973.

I have the honour to be, Sir,

Your obedient servant,

BILL DICKIE, Q. C.,
Minister of Mines and Minerals

Edmonton, September 10, 1973.

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Chief Officers

DEPARTMENT OF MINES AND MINERALS
MARCH 31st, 1973.

Hon. Bill Dickie, Q. C., ... Minister
H. H. Somerville ..... Deputy Minister
E. K. Spady ..... Solicitor
J. J. Heron ..... Statistician
B. P. P. Muir ..... Accountant
N. C. Parry ..... Personnel Officer

MINERALS DIVISION

M. J. Day ..... Director
F. J. Holubowich ..... Assistant Director
B. B. Goltz ..... Supervisor of Revenue
W. H. Roy ..... Supervisor of Reservations, Permits and Licences
B. R. Nimchuk ..... Supervisor of Leases and Mining Recorder, Edmonton District
D. C. MacMillan ..... Mining Recorder, Calgary District

MINERAL TAX DIVISION

I. M. Harrington ..... Superintendent
N. B. Adam ..... Assistant Superintendent
W. McGechie ..... Chief Assessor

TECHNICAL DIVISION

J. M. Novak ..... Superintendent
E. G. Staniforth ..... Assistant Superintendent
E. D. Barnard ..... Supervisor of Records

TWENTY-FOURTH ANNUAL REPORT

OF THE

Department of Mines and Minerals

HONOURABLE BILL DICKIE, Q. C.,
Minister of Mines and Minerals,
Edmonton, Alberta.

Sir:

I have the honour to present the Annual Report of the Department of Mines and Minerals for the fiscal year ended March 31, 1973.

Mineral production rose 17% during 1972 to an estimated value of $1.93 billion, increasing the lead established by Alberta last year as Canada's top producer. About $1.87 billion, or 97% of the total value resulted from production of energy fuels with crude oil accounting for the greater part at $1.21 billion. Natural gas contributed $307.5 million and liquids recovered from the processing of natural gas were valued at $243.2 million. Elemental sulphur and structural materials such as cement, sand and gravel accounted for the remainder.

Total liquids production amounted to 1,505,897 barrels a day, an increase of 21.1% over the 1971 average of 1,243,033 barrels a day. Conventional crude oil production increased 19.5% from 975,235 to 1,165,479 barrels a day, exceeding the million mark for the first time. Production from the Oil Sands rose 21.1% from 44,576 to 51,562 barrels a day and liquids recovered from the processing of natural gas were up 28.3% from 225,222 to 288,856 barrels a day.

Exports of liquids to the United States were up 31.5% from 686,000 barrels a day to 902,000 barrels a day; this volume represented 60% of Alberta's total production. The sharp rise was due primarily to a relaxation of import quotas in the United States brought on by the continued sharp expansion in energy demand in that country. Shipments to Petroleum Administration District (PAD) 2 of 162

million barrels accounted for almost one-half of Alberta exports, and the major importing States were Minnesota, Wisconsin, Illinois and Ohio. An additional 103 million barrels were shipped to PAD 5 which includes the West Coast States of California, Washington and Oregon; the fastest growing market in the United States for Alberta crude. Ontario took 100 million barrels or 18% of Alberta production while other Provinces and the Northwest Territories and the Yukon received the bulk of the remainder.

Natural gas sales rose almost 11% from 1.64 to 1.82 trillion cubic feet or 4.98 billion cubic feet a day. Almost 0.77 billion cubic feet a day (15.4%) were consumed in Alberta for residential and commercial use and for generation of electric power. Ontario took 1.45 billion cubic feet a day (29.1%) and exports to the United States of 2.07 billion cubic feet a day accounted for an additional 41.7% of shipments. Other Canadian Provinces took the remaining 13.8% of deliveries.

Elemental sulphur production rose 46% from 4.5 to 6.5 million long tons but prices fell to record lows, averaging $5.71 a ton for the 3.1 million tons sold. China became a sulphur customer for the first time as her demand rose for phosphatic fertilizers, the manufacture of which accounts for about one-half of total world sulphur consumption. World production continues to exceed demand, however, and Alberta sales could be hampered further by insufficient remelting facilities as well as pollution regulations in Greater Vancouver which prohibit the handling of non-slated bulk sulphur at the wharves. Slating involves turning liquid sulphur into small, wafer-thin pieces which are easier to handle, cause less pollution from sulphur dust and are cheaper to ship because of reduced moisture content.

The Sulphur Development Institute of Canada (SUDIC) was formed, with the approval of the Federal and Alberta Cabinets, with the objective of developing new high-volume uses for sulphur. SUDIC will assist with financial support for development of new uses for sulphur, as opposed to research, and will operate for

a minimum three-year period.

The 30 operating coal mines in Alberta produced 10.5 million short tons of raw coal, an increase of 1.6 tons over 1971. Clean coal for sale amounted to about 9.1 million tons of which 8.6 tons were sold. Sales of sub-bituminous coal were 4.9 million tons of which 4.5 million tons were utilized in Alberta in the generation of electric power. The other Western Provinces and Ontario took small amounts. Bituminous coal sales from 10 surface and underground mines amounted to 3.7 million tons, practically all of which went to Japan. Shipments to Japan fell below contractual levels because of unsatisfactory recovery efficiency of the preparation plant of McIntyre Porcupine and because of strikes by seamen and longshoremen at the West Coast. Middlings coal is separated from the exports to Japan in the processing plant of McIntyre Porcupine Mines Ltd., at Grande Cache and initial deliveries were made in October to the nearby H. R. Milner thermal plant. This new plant has a capacity for generating electric energy of 140 million watts, or 5% of the total generating capacity of 2,775 million watts of all hydro and thermal plants in Alberta.

Nineteen natural gas processing plants started operations during 1972, raising the number in the Province to 157. The number of plants going on-stream established a record as did the capital of $140 million expended. About 87% of the available sales gas came from processing plants in 1972.

The search for and development of new petroleum reserves picked up in 1972 with a record 2,676 wells drilled. Exploratory tests reached a high of 1,202 and resulted in 69 oil and 318 gas discoveries. Average depth and cost, however, remained at 1971 levels because of the continued concentration of drilling in the shallow portion of the sedimentary basin in southeastern Alberta. Because of this it appears that only small reserve additions will result, although two deep Leduc reef gas discoveries in the Obed and Ricinus areas of the Southeastern Foothills may be significant. Development drilling continued at a high level during the

year and added 440 oil and 672 gas wells to raise the total capable of operating to 14,186 oil and 3,985 gas wells, respectively. An additional 2,063 gas wells are capped.

Reserves of crude oil, natural gas, natural gas liquids and sulphur all declined in 1972. This was primarily due to a lack of major discoveries and to high production levels, although re-evaluation of previously discovered pools contributed slightly to the fall in crude oil reserves. At the end of 1972 reserves were: crude oil 7.09 billion barrels, natural gas 45.0 trillion cubic feet, natural gas liquids 1.98 billion barrels and sulphur 176.0 million long tons. Proved remaining crude oil recoverable from mining operations in the Athabasca Oil Sands is estimated at 26.5 billion barrels while recoverable reserves from all potential recovery techniques may be in the order of 250 billion barrels from all major Alberta deposits.

Exploration for coking coal slackened slightly in 1972 because of a slowing down in Japanese purchases. Proved mineable coal reserves at the end of 1972 were estimated to be 8.8 billion tons. Over 5.3 billion tons is located in the Plains Region and is sub-bituminous in rank. The remainder of the reserves are bituminous and are located in the Foothills and Mountain Regions. Generally, sub-bituminous coals are a source of fuel for the generation of electric energy, but may also be used as a feedstock for coal gasification. The high volatile bituminous coals of the Foothills Region are considered mainly as a source of thermal coal for the export market and as a feedstock for coal gasification plants, but may find use in metallurgical industries as well. The low and medium volatile bituminous coals of the Mountain Region are excellent sources of metallurgical coal.

Other important developments took place in 1972. Great Canadian Oil Sands Ltd., applied for an allowable increase from 45,000 to 65,000 barrels a day from its oil sands processing plant at Fort McMurray. A decision on the application will have to be reviewed on the basis of Alberta's proposed oil sands development

policy.

The Alberta Government approved an application by Syncrude Canada Ltd., to increase the capacity of its proposed bituminous sands plant from 85,000 to 125,000 barrels a day of synthetic crude oil. In granting the approval the Government imposed five conditions designed to benefit citizens of Alberta. Among the conditions were that resident Albertans be given an opportunity to purchase equity in the project and that the maximum use be made of Alberta labour, goods and services.

The gradual unfolding of Alberta's new energy policy was one of the most important events in 1972. In July the Cabinet of the Government of Alberta approved a new revenue plan relating to crude oil which would increase revenues by $70 million: increases in crude oil prices or production would contribute additional revenue on a proportional basis. The revenue is to be raised by a tax effective January 1, 1973, under The Mineral Taxation Act and will be based on the annual assessed value of remaining crude oil reserves under freehold as well as Crown leases. Holders of rights will be provided with a one-time option to amend existing leases having maximum royalty provisions so that maximum royalty provisions do not apply: those electing to exercise the option will be granted exemption from taxation under The Mineral Taxation Act.

Also effective January 1, 1973, the Government implemented an Exploratory Drilling Incentive System designed to increase exploratory activity in Alberta. The System has the objectives of accelerating the discovery of additional crude oil and natural gas reserves and to stimulate the economy in rural areas where most of the exploratory activity will take place. Briefly, the System would allow credits against taxes under The Mineral Taxation Act for certain types of exploratory wells and give a crude oil royalty exemption for five years for discovery wells.

A new natural gas policy for Albertans was announced in November after the

Government received a report from the Energy Resources Conservation Board on field pricing of natural gas. The Policy decision contained a directive that there would be no further removal of gas from the Province unless and until the gas was being purchased at fair market value. It was also decided that Albertans should have a two-price system for natural gas as a result of efforts to gain significant price increases for gas removed from the Province. The Government concluded that it would take such action as is necessary to assure that Alberta consumers would not be significantly burdened by the consequences of higher prices and a proposed rebate system for Alberta natural gas consumers is being designed.

The Government is studying other areas connected with energy policy. An oil sands development policy may be formulated and studies are being done on increased natural gas royalty as well as land tenure regulations under The Mines and Minerals Act.

A separate report regarding the operation of coal mines and quarries may be obtained from the Energy Resources Conservation Board, 603 Sixth Avenue S. W., Calgary, Alberta.

Detailed reports of the Divisions of the Department follow.

H. H. SOMERVILLE,
Deputy Minister.

September 3, 1973.

Minerals
Division

Alberta
MINES AND MINERALS

Minerals Division

Report of The Director of Minerals
MICHAEL J. DAY

The Province is divided into two mining districts. The Edmonton district comprises that portion of the Province lying to the north of the north boundary of township 42; the balance of the Province lying to the south is contained in the Calgary district.

Mineral rights, the property of the Crown in Alberta, are not sold but are granted under lease, reservation, permit or other agreement for limited periods of time. During the fiscal year 4,810 applications for mineral rights were filed at the offices of the Mining Recorders in Edmonton and Calgary and at the office of the Department in Edmonton; an increase of 73 from the previous year.

Petroleum and natural gas permits are the exploratory agreements conveyed in Block A, that portion of the Province lying between the fourth and fifth meridians from townships one to 64 inclusive. They differ chiefly from petroleum and natural gas reservations (disposed of outside Block A) in that a well must be commenced within two years in order to acquire leases which may then comprise up to 100% of the permit. Petroleum and natural gas reservations have a longer life and may be maintained in good standing by other forms of exploratory examination such as geophysical work. Lease applications out of a reservation may not comprise more than 50% of the rights in any township, the remaining 50% reverting to the Crown for subsequent dispositions as Crown Reserves.

Revenue obtained from bonuses, fees, rentals, royalties and other miscellaneous charges during the fiscal year was $331,114,390, an increase of $58,339,576 or 21.4% from the previous fiscal year. This increase was chiefly attributable to a rise in production of oil, natural gas and gas products with royalties from these minerals increasing by $39,819,449 to $214,457,161 or 65% of the total revenue.

Sales of Crown Reserve leases and other Crown Reserve dispositions relating to petroleum and natural gas amounted to $32,402,543, an increase of $11,332,356. Sales of petroleum and natural gas reservations, permits and leases of other than Crown Reserve areas amounted to $28,682,334, an increase of $3,491,766 over the

previous year.

There were 2,676 wells drilled during 1972 of which 1,202 were exploratory and 1,474 were development. Total footage drilled was 10,076,799 compared with 8,024,751 feet the previous year. At December 31, 1972 there were 14,168 oil wells and 3,985 gas wells capable of producing, as well as 2,063 capped gas wells.

Conventional crude oil production in 1972 rose 19.5% to 425,399,877 barrels and was valued at $1,210,464,983. During December, daily wellhead production capacity reached 1,630,000 barrels but restrictions on carrying capacity limited average daily production to 1,361,200 barrels.

The production and value of some of Alberta's important minerals in 1972 were as follows:

	Production	Increase over 1971	Estimated Sales Value 1972
Conventional Crude	425,399,877 Bbl.	+19.5%	$1,210,464,983
Oil Sands Crude	18,820,188 Bbl.	+21.1%	62,282,648
Natural Gas (marketed)	1,818,152 Mmcf	+10.9%	307,470,997
Pentanes Plus	58,338,020 Bbl.	+31.1%	173,284,948
Propane	28,296,658 Bbl.	+23.3%	43,591,930
Butanes	18,797,780 Bbl.	+27.4%	26,290,032
Coal	10.5 million short tons	+17.1%	48,195,112

A tabulation of leases, together with statements of business transacted, follows:

NUMBER OF MINERAL LEASES

Type of Lease	Active at April 1, 1972	Issued	Reinstated	Divided	Cancelled	Renewed	Active at March 31, 1973
Petroleum and Natural Gas	32,393	3,334	87	223	3,264	...	32,773
Natural Gas	1,312	63	...	13	50	...	1,338
Petroleum	21	1	...	...	.....	...	22
Coal	1,606	341	...	13	151	13	1,796
Road Allowance Coal	302	83	...	...	.....	11	374
Quarrying	84	11	...	...	4	1	90
Salt	2	.....	...	...	.....	...	2
Bituminous Sands	84	.....	...	...	.....	...	84
Oil Sands	57	4	...	...	.....	...	61
Iron	5	.....	...	...	.....	...	5
Sodium Sulphate	2	.....	...	...	.....	...	2
Quartz Minerals	11	1	...	...	2	...	10
Miscellaneous	10	.....	...	...	.....	...	10
TOTAL	35,889	3,838	87	249	3,471	25	36,567

ACREAGE CONTAINED IN ABOVE LEASES

Type of Lease	Active at April 1, 1972	Issued	Reinstated	Cancelled	Renewed	Active at March 31, 1973
Petroleum and Natural Gas	39,752,063	4,595,837	119,026	3,769,806	.....	40,697,120
Natural Gas	4,907,801	282,062	.....	56,373	.....	5,133,490
Petroleum	58,203	640	.....	.....	.....	58,843
Coal	1,896,354	500,076	.....	421,188	2,269	1,972,973
Quarrying	15,628	1,139	.....	539	20	16,208
Salt	1,204	.....	.....	.....	.....	1,204
Bituminous Sands	2,695,045	.....	.....	.....	.....	2,695,045
Oil Sands	1,515,652	128,902	.....	.....	.....	1,644,554
Iron	40,057	.....	.....	.....	.....	40,057
Sodium Sulphate	2,157	.....	.....	.....	.....	2,157
Quartz Minerals	24,196	7,148	.....	7,436	.....	23,908
Miscellaneous	1,361	.....	.....	.....	.....	1,361
TOTAL	50,909,721	5,515,804	119,026	4,255,342	2,289	52,286,920

PETROLEUM AND NATURAL GAS

	Number	Acres
Leases issued	3,334	4,595,837
Leases cancelled and relinquished	3,264	3,769,806
Leases reinstated	87	119,026
Reservations issued	261	8,390,516
Reservations terminated	154	4,435,540
Crown reserve drilling reservations issued	104	845,424
Crown reserve drilling reservations terminated	73	658,155
Permits issued	239	2,545,363
Permits terminated	139	2,178,161
Natural gas licences issued	18	290,602
Natural gas licences terminated	23	335,639
Crown reserve natural gas licences issued	31	464,570
Crown reserve natural gas licences terminated	13	176,835
Natural gas leases issued	63	282,062
Natural gas leases cancelled and relinquished	50	56,373
Petroleum leases issued	1	640

Fees, rentals, penalties and bonuses collected	$76,398,578.95
Royalties collected	$214,457,161.25
Crown reserve sales	$32,402,542.88
TOTAL	$323,258,283.08

COAL

	Number	Acres
Leases issued	341	500,076
Leases cancelled and relinquished	151	421,188
Road allowance leases -		
Leases issued	83	
Leases cancelled and relinquished	Nil	
Fees and rentals collected	$2,081,917.44	
Royalties collected	660,218.51	
TOTAL	$2,742,135.95	

QUARRYING

	Number	Acres
Leases issued	11	1,139
Leases cancelled and relinquished	4	539
Fees collected	170.00	
Royalties collected	$93,638.98	
TOTAL	$93,808.98	

MISCELLANEOUS

	Number
Oil sands prospecting permits issued	1
Oil sands prospecting permits terminated	1
Oil sands leases issued	4
Quartz mineral exploration permits issued	6
Quartz mineral exploration permits terminated	2
Quartz mineral leases issued	1
Quartz mineral leases terminated	2
Quartz -	
Certificates of record issued	25
Certificates of record continued	124
Roadway mineral sales	4
Geophysical licences issued	113
Permits to operate geophysical equipment issued	6
Permits to operate geophysical equipment renewed	64
Fees, rentals, royalties and miscellaneous charges	$5,020,161.75

PETROLEUM AND NATURAL GAS

LEASES

Acreage under petroleum and natural gas lease increased slightly to 40.7 million acres. The 3,334 leases granted represented a 16% increase over the 2,870 issued the previous year: an indication of the success of measures introduced to accelerate lease turnover. The Mines and Minerals Act, 1962, which came into force on June 1, 1962, provided that each petroleum and natural gas lease would be granted for a term of ten years and at the end of the fiscal year there were 22,020 of these leases comprising 26,907,986 acres. Leases granted prior to June 1, 1962, were for a term of 21 years as well as leases selected from a petroleum and natural gas reservation or Crown reserve drilling reservation. If a 21-year lease was divided or a portion of it transferred, the new lease would also carry the 21-year term.

The revenue received from fees amounted to $32,979, from lease rentals $36,449,458 and the bonuses accepted by the Mining Recorders at sales of petroleum and natural gas leases in Block A amounted to $4,996,300. The revenue from compensatory royalty on petroleum and natural gas leases amounted to $37,379 and from drilling extension penalties $248,442.

DISPOSAL OF CROWN RESERVES

Petroleum and natural gas rights in Crown reserves may be disposed of as lease and reservation (the latter being referred to as Provincial Parcels) by order of the Lieutenant Governor in Council. During the year four Crown reserve sales were held and 450 leases and seven such reservations were purchased for bonuses of $11,454,028 and $1,223,188 respectively. An additional $24,900 was realized for three Crown reserve leases disposed of under sections of The Act not requiring public tender. Particulars of Crown reserve purchases during the year may be obtained from the Department.

Crown Reserve Drilling Reservations

During the fiscal year 104 drilling reservations were issued comprising an area of 845,424 acres and at the close of the year 117 were active comprising an area of 963,184 acres.

The revenue from drilling reservation fees amounted to $26,000, from rentals $526,874 and the revenue from accepted offers at sales amounted to $15,892,383, an increase of $8,635,833 over the previous year.

Credit may be granted for expenditures incurred in drilling a well on a drilling reservation and applied in satisfaction of the first year's rental. During the fiscal year, rentals of $84,000 on leases acquired out of these reservations were satisfied by credit.

Crown Reserve Natural Gas Licences

During the fiscal year 31 Crown reserve natural gas licences comprising an area of 464,570 acres were issued. At the close of the year 45 licences were active comprising an area of 679,982 acres. The revenue from fees was $7,750, from rentals $72,457 and the revenue from accepted offers at sales of Crown reserve natural gas licences amounted to $3,666,929, an increase of $2,045,057 over the previous year. During the fiscal year, rentals of $17,280 on leases acquired out of these licences were satisfied by credit.

RESERVATIONS

During the fiscal year 261 reservations were issued comprising an area of 8,390,516 acres and at the close of the year 863 active reservations contained an area of 27,434,110 acres, an increase of 107 reservations and 3,954,976 acres over the previous year.

The revenue from reservation fees amounted to $73,250, for extending reservations $4,403,821 and $9,540,810 resulted from bonuses accepted by the Director of Minerals at sales of petroleum and natural gas reservations.

Credit of not in excess of fifty per cent of the approved expenditures incurred in geophysical examination and/or drilling on petroleum and natural gas reservations may apply to the rental for one year of any lease of leases acquired out of reservations and during the fiscal year rentals of $1,441,119 were satisfied from such expenditures.

PETROLEUM AND NATURAL GAS PERMITS

During the fiscal year 239 permits covering an area of 2,545,363 acres were issued and at the close of the year 361 permits were active comprising an area of 4,696,832 acres. This is an increase of 100 permits and 367,202 acres. The revenue from fees was $2,190, from rentals $4,166,412 and from accepted offers at sales of permits $14,053,448, an increase of $3,009,062 over last year's sales. Up to fifty per cent credit may be granted for expenditures incurred in drilling a well on a permit and applied in satisfaction of the first year's rental. During the fiscal year, rentals of $1,831,676 on leases acquired out of permits were satisfied by credit.

NATURAL GAS LICENCES

During the fiscal year 18 natural gas licences comprising an area of 290,602 acres were issued. The revenue from fees was $6,500 and from rentals was $36,939. Credit may be granted for expenditures incurred in drilling a well on a natural gas licence and applied in satisfaction of the first year's rental. During the fiscal year, rentals of $66,906 on leases acquired out of the licences were satisfied by credit.

NATURAL GAS LEASES

During the fiscal year 63 natural gas leases were issued comprising 282,062 acres. The revenue from fees was $630 and from lease rentals $1,515,165.

COAL

The following tonnage of coal subject to royalty was mined during the fiscal year:

Coal Leases	6,330,713	short tons
Coal Lands and Mineral Sales ...	234,745	short tons
TOTAL	6,565,458	short tons

QUARRYING

Extraction of 1,734,463 tons of limestone and shale, 24,836 cubic yards of clay and 16,757 tons of sandstone from Crown leases was reported during the fiscal year.

GOLD AND SILVER RECOVERY

In connection with a sand and gravel operation, there were 30 Troy ounces of gold and 3 Troy ounces of silver recovered during the fiscal year.

SODIUM CHLORIDE

During the calendar year the plant near Lindbergh reported extraction of 76,661 tons, a decrease of 527 tons from the previous year.

SODIUM SULPHATE

During the calendar year the plant near Provost operated and reported extraction of 76,640 tons, a decrease of 1,544 tons from the previous year.

ROADWAY MINERAL SALES

During the fiscal year four notifications were issued pursuant to Section 24 of The Mines and Minerals Act, 1962, which provides a means whereby minerals in roadways may be returned to the adjacent owner.

WELL LICENCES

During the fiscal year there were 2,923 licences issued for wells to be drilled for the purpose of obtaining oil or gas, 103 were issued for geological and engineering information (two thirds of them in connection with oil sands), 37 licences were issued for wells to be drilled for the purpose of obtaining water (mostly for reservoir injection), 40 licences were issued for wells to be drilled for the purpose of injecting gas, air, water or other substance to an underground formation, and one licence was issued for a relief well.

Well licences are issued by the Energy Resources Conservation Board, Calgary, which maintains detailed drilling statistics. The Board also applies the Lahee classification to all wells; the Lahee new field wildcat category forms the basis for the certification by the Board of incentive wildcat wells. These wells, under the Exploratory Drilling Incentive Regulations (Alberta Regulations 378/72) earn credit (dependent upon depth) which may be used to offset the lessee's rental and royalty payments.

The Exploratory Drilling Incentive system came into being August 1, 1972; to the end of the fiscal year, 321 wildcat wells were certified, of which ~~16~~ 22 were capable of production as follows:

oil wells on Crown minerals	4
oil wells on Freehold minerals	2
Total oil wells	6
gas wells on Crown minerals	9
gas wells on Freehold minerals	7
Total gas wells	16

A total credit of $4,355,509.23 was established for the year ending March 31, 1973.

GEOPHYSICAL AND GEOLOGICAL EXPLORATION

During the fiscal year 113 licences and 6 permits were issued while 64 permits were renewed.

UNIT OPERATION OF MINERALS

During the fiscal year 26 agreements pursuant to Part 8 of The Mines and Minerals Act became effective for unit operation of petroleum and natural gas properties, an increase of nine over last year. These agreements were:

Beaverhill Lake Viking Gas Sand Unit No. 2
Boundary Lake South Triassic C Unit
Boundary Lake South Triassic E Pool Unit
Chauvin South Gas Unit No. 1
Corbett Creek Viking Gas Unit No. 1
Cynthia Cardium Unit No. 4
Delburne Gas Unit
Gilby Lower Mannville Ostracod Unit No. 1
Hartell Gas Unit
Hawkins Viking Gas Unit No. 1
Holden Basal Quartz "B" Gas Sand Unit
Holden Basal Quartz "C" Gas Sand Unit
Holden Glauconitic III Gas Unit
Holden Viking Gas Sand Unit No. 1
Huxley Gas Unit No. 1
Jarrow Gas Unit
Killam North Upper Viking Gas Sand Unit No. 1
Medicine River Glauconite "A" Unit No. 1
Medicine River Pekisko "C" Pool Unit
Nipisi Gilwood C Unit
Pembina Belly River "B" East Unit
Pembina Belly River "B" South Unit
Provost Viking Throne Unit
Rainbow Keg River AA Unit
Warwick Detrital Gas Unit
Zama Virgo Unit No. 1

STAFF

At the close of the fiscal year the Division staff comprised 86 positions, of which nine were vacant. Mr. B. B. Goltz was promoted to the position of Supervisor of Revenue.

Mineral
Tax
Division

Alberta
MINES AND MINERALS

Mineral Tax Division

Report of the Superintendent

I. M. Harrington

Producing area tax revenue for the fiscal year ending March 31, 1973, amounted to $2,156,138.64, an increase of $178,872.34 from the previous year's revenue of $1,977,266.30. The rate of tax on the 1972 assessment was eight mills.

The principal minerals assessed and the total assessed values were:

Petroleum	$208,609,985.68
Natural Gas	59,001,340.53
Coal	828,575.80
Salt	222,892.80
TOTAL	$268,662,794.81

Mineral tax based on acreage for the fiscal year was received in the amount of $869,189.41, a decrease of $38,938.62 from the $908,128.03 received in the preceding year. The rate of tax was five cents an acre.

There were 617 mineral tax certificates issued during the fiscal year with revenue derived therefrom being $308.50. A tax certificate shows the amount of current taxes and arrears payable with respect to the mineral or minerals contained in a certificate of title. Anyone may obtain a certificate for a fee of fifty cents.

Pursuant to The Mineral Titles Redemption Act, after the mineral titles were acquired by the Crown, there were instances where the minerals had been granted under lease, licence, reservation, permit or other agreement, for exploration and development. The statute provides that where the minerals have been granted by the Crown, the return of the title to the former owner must be delayed until the minerals are no longer under lease, licence, reservation, permit or other agreement. In these instances, the former owner is entitled to receive the moneys collected by the Crown less a deduction of an amount equal to the tax that would have been charged had title been returned.

During the fiscal year the amount of moneys collected on existing agreements and returned to former owners was $41,987.17. This brings the total to $664,752.01

that has been returned to former owners since the Act came into force.

There was one title returned to the former owner as a result of an agreement terminating during the year. As at March 31, 1973 there were 24 titles, the redemption of which will be delayed until the leases or other agreements terminate.

Technical
Division

Alberta
MINES AND MINERALS

Technical Division

Report of the Superintendent

J. M. NOVAK

The following report summarizes the operations of the Technical Division for the fiscal year ending March 31, 1973:

DRAUGHTING, LAND DESCRIPTIONS AND GENERAL

The series of maps covering approximately forty-eight townships for each area and on a scale of three-quarters of an inch to a mile, showing the status of oil and gas wells and field boundaries, were drawn covering the following areas:

BUFFALO RIVER - Townships 118 to 126, Ranges 1 to 5,
West of the 5th Meridian

FIREBAG RIVER - Townships 93 to 100, Ranges 1 to 6,
West of the 4th Meridian

FORT MacKAY - Townships 93 to 100, Ranges 7 to 12,
West of the 4th Meridian

GARDINER LAKES - Townships 93 to 100, Ranges 13 to 18,
West of the 4th Meridian

GORDON LAKE - Townships 85 to 92, Ranges 1 to 5,
West of the 4th Meridian

HORSE RIVER - Townships 85 to 92, Ranges 11 to 15,
West of the 4th Meridian

WHITESAND RIVER - Townships 118 to 126, Ranges 6 to 11,
West of the 5th Meridian

All maps are revised as changes and additions occur.

A total of 5,100 maps were distributed by the Department.

During the year, 2,923 licences were issued by the Energy Resources Conservation Board for wells to be drilled for the purpose of obtaining oil or gas; an increase of 736 from the 2,190 licences issued the previous year. The Division searches the ownership of Crown minerals in the spacing unit allocated to the well.

Land descriptions were prepared for all mineral dispositions, as well as de-

scriptions for recommendations to Council.

The photo-reproduction requirements of this Department were processed by the Surveys Branch, Department of Highways and Transport. This Division supplies the ozalid print requirements of the Department.

The Records Branch maintains the records in the Department respecting leases, permits, reservations, licences and other agreements and certificates of record. It also provides township plots to the public indicating availability or status of Crown minerals.

During the year 2,534 transfers were registered relating to 5,960 agreements. A comparison with the previous year follows:

	1971-72	1972-73
Petroleum and Natural Gas Leases	5,519	5,005
Petroleum Leases	1	6
Natural Gas Leases	169	132
Petroleum and Natural Gas Permits	75	55
Petroleum and Natural Gas Reservations	262	281
Crown Reserve Drilling Reservations	19	33
Crown Reserve Natural Gas Licences	10	16
Coal Leases	342	333
Road Allowance Coal Leases	5	12
Oil Sands Leases	13	6
Bituminous Sands Leases	24	2
Quarrying Leases	5	0
Quartz Mineral Leases	2	0
Quartz Mineral Exploration Permits	2	1
Certificates of Record	0	73
Geophysical Licences	2	3
Geophysical Permits	3	2
TOTALS ...	6,453	5,960

The documents filed in comparison with the previous year were:

Type of Document	1971-72	1972-73
Discharge of Mechanics Lien	1	1
Builders Lien	27	14
Lis Pendens	1	4
Assignment of Lien	2	0
Discharge of Builders Lien	17	10
Bank Securities	589	860
Discharge of Bank Security	245	126
TOTALS	882	1,015

The 1,015 documents filed relate to 1,479 agreements.

Five transfers were issued during the fiscal year for the return of minerals underlying roadways to the owners of adjacent minerals.

Accounts

Alberta
MINES AND MINERALS

Accounts

Report of the Accountant

B. P. P. MUIR

A surplus of $332,221,648.68 on Income Account was shown for the fiscal year ending March 31, 1973.

Net Revenue on Income Account amounted to $334,260,111.66.

Gross Receipts for all sources amounted to $343,823,790.21.

Expenditures on Income Account for the year amounted to $2,038,462.98. Particulars of expenditure may be found in Statement "C".

As at March 31, 1973, there were 47,235 Accounts Receivable as compared with 46,041 the previous year ending March 31, 1972.

During the year 4,038 accounts were cancelled or closed and 5,232 reinstated or opened.

INDEX TO STATEMENTS

A - Statement of Receipts from all sources

B - Statement of Receipts - Income Account

C - Statement of Expenditure by Appropriation and Character

D - Statement of Net Receipts by Division

E - Statement of Receipts and Expenditure

F - Statement of Fiscal Revenue for the last five years and total Revenue for the period April 1, 1949 to March 31, 1973

STATEMENT OF RECEIPTS FROM ALL SOURCES

STATEMENT "A"

From April 1, 1972 to March 31, 1973

	Gross Receipts	Refunds	Net Receipts
Income Account (See Statement "B")	$334,702,351.03	$ 442,239.37	$334,260,111.66
Suspense (Unapplied receipts carried forward, subject to refund)	9,121,439.18	8,788,384.57	333,054.61
	$343,823,790.21	$9,230,623.94	$334,593,166.27

STATEMENTS OF RECEIPTS—INCOME ACCOUNT

From April 1, 1972 to March 31, 1973

	Gross Receipts	Refunds	Net Receipts
COAL MINING			
Coal Fees, Rental, etc.	$ 2,094,114.44	$ 12,197.00	$ 2,081,917.44
Coal Royalty	660,218.51	---.--	660,218.51
PETROLEUM AND NATURAL GAS			
Petroleum and Natural Gas Fees, Rental, etc.	76,817,112.04	418,533.09	76,398,578.95
Petroleum and Natural Gas Royalty	214,457,182.29	21.04	214,457,161.25
Crown Reserve Sales	32,402,542.88	---.--	32,402,542.88
MISCELLANEOUS			
Oil Sands Fees, Rental and Royalty	4,912,794.99	---.--	4,912,794.99
Quarrying Fees, Rental and Royalty	93,808.98	---.--	93,808.98
Miscellaneous Mining	117,229.71	9,862.95	107,366.76
MINERAL TAX	3,026,508.03	871.48	3,025,636.55
ADMINISTRATION SUNDRY REVENUE	118,428.99	753.81	117,675.18
LANDMAN LICENCE FEES	2,295.00	---.--	2,295.00
REIMBURSEMENT OF SALARIES AND EXPENDITURES	115.17	---.--	115.17
	$334,702,351.03	$442,239.37	$334,260,111.66

STATEMENT "C"

EXPENDITURE CLASSIFIED BY APPROPRIATION AND CHARACTER

FOR THE FISCAL YEAR ENDED MARCH 31, 1973

INCOME ACCOUNT

SERVICE	2001 Minister's Office	2002 General Administration	2003 Petroleum Recovery Research	2005 Geological Division	2007 Minerals Division	2008 Mineral Tax Division	2010 Technical Division	2011 Abandonment of Mining Properties	2012 Redemption of Mineral Titles	2013 Clay & Marl Crown Lease Act	2015 Supervisory & Safety Training Program	2017 Admin. Crude Oil Revenue Plan	2020 Oil & Gas Studies	2022 Feasibility Study	TOTAL
Advertising					5,699.00								11,184.95		16,883.95
Purchase of Auto, etc.	3,635.65														3,635.65
Contracts and Agreements				7,313.00				3,121.65							10,434.65
Entertainment Expenses		19.25											235.85		255.10
Fees and Commissions	195.00	816.13			874.25	81.68	348.52					9,000.00	95,364.97	78,460.18	185,140.73
Freight Express and Cartage		223.50											20.00		243.50
Furnishings, Equipment, Tools	428.20	1,892.68			5,694.92	1,391.09	2,942.63					1,500.00			13,849.52
Grants, Prizes			100,000.00								3,600.00				103,600.00
Insurance Premiums		18.50													18.50
Materials Supplies Admin. and Operation	693.88	22,597.49			2,294.64	863.86	6,460.40					11,500.00	3,797.03	5,180.23	53,387.53
Materials Supplies Admin. and Construction		21.63					40.89								62.52
Postage	285.23	2,943.14			15,259.38	2,943.14	752.26						8.70		22,191.85
Rentals					70.00		13,484.09					500.00		71.00	14,125.09
Refunds and Remissions									41,987.17	877.29					42,864.46
Repair of Equipment					7.45										7.45
Repair and Maintenance of Office Machines and Equipment	63.26	2,623.14			1,674.83	573.80	1,119.87								6,054.90
Salaries	23,246.41	271,112.77			521,258.39	141,776.91	383,227.00					165,900.00			1,506,521.48
Telephone and Telegraph	2,753.59	2,043.60			9,096.66	32.51	5,523.38						451.64		19,901.38
Travelling Expenses of Other Than Public Servants													2,120.54	498.65	2,619.19
Travelling Expenses of Public Servants	503.35	7,350.52			11,991.69	3,063.89	2,159.86					1,600.00			26,669.31
Tuition		40.70			150.00	50.00									240.70
Wages		1,726.38			3,576.63	150.84	2,940.28						1,361.39		9,755.52
TOTAL: Income Account	31,804.57	313,429.43	100,000.00	7,313.00	577,647.84	150,927.72	418,999.18	3,121.65	41,987.17	877.29	3,600.00	190,000.00	114,545.07	84,210.06	2,038,462.98

STATEMENT "D"

STATEMENT OF NET RECEIPTS BY DIVISIONS

For Fiscal Year Ending March 31, 1973

INCOME ACCOUNT

Minerals Division	$331,114,389.76
Mineral Tax Division	3,025,636.55
Miscellaneous (Administration Sundry Revenue, etc.)	120,085.35
Suspense (Unapplied receipts carried forward, subject to refund)	333,054.61
	$334,593,166.27

STATEMENT "E"

STATEMENT OF RECEIPTS AND EXPENDITURE

For Fiscal Year Ending March 31, 1973

Gross Receipts	$343,823,790.21
Refunds	9,230,623.94
Net Receipts	334,593,166.27
Net Revenue on Income Account	334,260,111.66
Total Expenditure from Appropriations	2,038,462.98
Surplus on Income Account	332,221,648.68

STATEMENT "F"

STATEMENT OF FISCAL REVENUE FOR THE LAST FIVE YEARS AND TOTAL REVENUE FOR THE PERIOD APRIL 1, 1949 to MARCH 31, 1973

	Total Revenue April 1, 1949 to March 31, 1968	1968 - 69	1969 - 70	1970 - 71	1971 - 72	1972 - 73	Total Revenue April 1, 1949 to March 31, 1973
COAL							
Fees, Rental and Bonus	$ 1,915,733.93	$ 444,322.05	$ 511,340.11	$ 1,257,117.68	$ 1,956,023.99	$ 2,081,917.44	$ 8,166,455.20
Royalty	4,513,615.06	198,318.02	140,848.41	383,767.45	559,702.75	660,218.51	6,456,470.20
Sundry Revenue	59,904.41	1,352.00	2,721.00	3,292.30	2,406.45	---.--	69,676.16
PETROLEUM AND NATURAL GAS							
Fees, Rental and Bonus	588,724,897.84	55,529,455.95	60,933,768.89	58,276,810.35	71,346,061.94	76,398,578.95	911,209,573.92
Royalty	703,543,030.18	105,122,892.49	121,098,447.10	143,718,055.94	174,637,712.35	214,457,161.25	1,462,577,299.31
Crown Reserve Sales	1,081,721,474.02	121,031,177.72	70,294,355.77	26,537,046.31	21,070,186.90	32,402,542.88	1,353,056,783.60
SALT							
Fees and Rental	20,798.20	1,010.60	1,012.55	1,004.49	1,005.60	1,005.60	25,837.04
Royalty	212,370.65	20,486.67	20,784.73	20,828.34	21,121.74	21,444.65	317,036.78
QUARRYING							
Fees and Rental	4,669.71	20.00	.00.00	50.00	40.00	170.00	5,049.71
Royalty	1,011,728.82	80,724.58	81,564.32	79,748.91	79,686.10	93,638.98	1,427,091.71
QUARTZ							
Fees, Rental and Bonus	97,737.76	92,439.19	140,812.36	20,741.00	12,987.25	16,174.50	380,892.06
OIL SANDS							
Fees, Rental and Royalty	8,979,986.60	2,311,872.60	3,133,772.10	2,445,851.63	3,003,131.86	4,912,794.99	24,787,409.78
MINING MISCELLANEOUS							
Fees, Rental and Royalty	3,237,670.84	123,589.91	65,028.21	126,907.04	87,153.56	68,742.01	3,709,091.57
MINERAL TAXATION ACT							
Non-Producing Area Tax	7,171,903.17	892,070.09	928,707.99	932,678.73	908,128.03	869,189.41	11,702,677.42
Producing Area Tax	18,992,540.23	1,459,176.16	1,494,216.92	1,632,342.07	1,977,266.30	2,156,138.64	27,711,680.32
Certificate Fees	15,452.10	129.00	99.50	270.50	322.50	308.50	16,852.10
PIPE LINE ACT SUNDRY REVENUE	95,854.15	12,528.50	12,673.70	15,904.00	12,144.87	---.--	149,105.22
ADMINISTRATION SUNDRY REVENUE	1,263,961.70	75,978.46	121,778.43	119,975.22	121,325.13	117,790.35	1,820,809.29
LANDMAN LICENCE FEES	---.--	11,855.00	2,585.00	2,840.00	1,550.00	2,295.00	21,125.00
TOTAL	$2,421,583,329.37	$287,409,398.99	$258,984,617.09	$235,575,231.96	$275,797,957.32	$334,260,111.66	$3,813,610,646.39

Personnel

Alberta
MINES AND MINERALS

Personnel

Report of the Personnel Officer

N. C. PARRY

At the commencement of the year there were 205 established department positions. At the end of the year there were 215 established department positions, a net increase of 10 positions. The increase in staff establishment was primarily due to the volume of work arising from the early stages of the implementation of the Crude Oil Revenue Plan and, secondly, a general build up of over-all work load.

In addition to the employees who occupied the above positions there was a turn-over rate of 64 employees. The majority of the terminations came from those employees who occupied relatively junior clerical positions -- 40 terminations or 62% of the total terminations. Of those terminating, 18 left to accept other employment; 6 left due to change of domicile; 6 left to further their education and the remaining 34 left for various other reasons.

With regard to staff development, approximately 15% of departmental employees took advantage of subsidized courses and inservice training programs. Employees were encouraged to take further training in those areas which would prove to be of mutual benefit to the employee and the department.